

From: "Bridget Pomaville" <bpomaville@thesourcegroup.net>
To: MVanderdus@aol.com; JLaBay@waterboards.ca.gov
CC: cherbst@waterboards.ca.gov
Date: 5/30/2008 9:44 AM
Subject: RE: Administrative Draft Waste Discharge Requirements for DoubleDiamond Dairy
Attachments: VanderDussen Changes.pdf; DAIRY-35_Fields and Facility FIG 3 -Fields.pdf

Jennifer,
Attached please find comments to the WDR for Double Diamond Dairy. I am also attaching an updated field map. I am not sure you will have time to include these but they are more accurate.
Please call me if you have any questions.
Thanks!!! Bridget

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-----Original Message-----

From: Jennifer LaBay [mailto:JLaBay@waterboards.ca.gov]
Sent: Wednesday, May 28, 2008 1:58 PM
To: MVanderdus@aol.com
Cc: bpomaville@thesourcegroup.net; Charlene Herbst
Subject: Administrative Draft Waste Discharge Requirements for DoubleDiamond Dairy

Mr. Vander Dussen,

Attached is an Administrative Draft of Waste Discharge Requirements (WDRs) that has been prepared by Regional Board staff for your dairy at 729 E Jefferson Rd in El Nido. Please review these requirements and provide any comments you have to me by noon on 30 May 2008. I apologize for the short turn-around time for the Administrative Draft review but, in order for the Regional Board to consider these WDRs at the 31 July/1 August 2008 meeting, the WDRs need to be posted for 30 day public at the beginning of next week.

Please refer to the attached letter for specific information we would like to receive before the formal public review of the document begins on 2 June. If you have any questions, please call me at (916) 464-4735.

Thank you

Jennifer LaBay
Environmental Scientist
California Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

(916) 464-4735
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are used on the cropland or for bedding. The Discharger also owns 121 acres away from the dairy facility with APNs 085-380-028 and 085-050-007, which are being leased for growing tomatoes. At this time liquid and solid manure are not applied to the field; however, it may be applied at some point in the future.

5. The remaining 188 acres are used for the dairy production area, including corrals, freestall barns, milking parlor, holding pens, manure storage and drying areas, hay and commodity storage pads, mechanical separators, settling ponds, and the storage lagoons (See Attachment B).
6. The facility is located outside the 100-year floodplain.

Waste Production

7. Waste produced at the facility consists of wastewater from facility wash down operations and storm water containing manure, urine, milk products, spoiled feed material, bedding (litter), soil, and cleaning compounds. Solid wastes are also produced at the facility and primarily consist of manure with additional fractions of spoiled feed, bedding material and soil.
8. An estimated 110,040 gallons per day (gpd) of clean water from the on-site water supply wells is used to wash down the holding pen, wash pen, and milking parlor floors, rinse the cows, and wash down miscellaneous dairy equipment. An additional 20,000 gallons per week of fresh water is used to wash down the calf holding areas.

Wastewater Ponds

9. Wastewater generated at the facility is conveyed to a transfer pit and then to two mechanical separators on concrete slabs to settle out solid material from the flushing of the freestall barns. The liquid wastewater is then sent to three settling ponds, which are side by side to settle out any remaining solid material after running through the mechanical separators. Wastewater then gravity flows into the three main storage lagoons, before it is used for irrigation of the land application area. Wastewater from the process pit is used to flush the lanes.

10. The facility has three settling ponds and three storage lagoons. The three settling ponds all have dimensions of 430 feet long by 100 feet wide, are 25 feet deep and have 1:1 side slopes. The wastewater storage lagoons have dimensions of 100 feet long by 40 feet wide, 650 feet long by 160 feet wide, and 616 feet long by 300 feet wide. The lagoons are 25 feet, 35 feet, and 40 feet deep and all three have 1:1 side slopes. The storage lagoons were constructed following the 1984 Title 27 requirements of having underlying soils of no less than ten percent gravel and ten percent clay. The total storage capacity of the three storage lagoons combined, allowing for two feet of freeboard, is 10,332,534 cubic feet.

more

correction

no less than

Remove 9. A routine sanitation and manure management plan shall be prepared for the dairy. The Discharger shall inspect for manure buildup weekly in the freestall barn pens. Manure removal and scraping of wet manure in the flush lane along the freestall barn pens should be conducted weekly to minimize fly production when manure buildup is evident.

Remove 10. Manure buildup underneath watering stations shall be removed and incorporated back into the pen or placed into flush lanes each week throughout the year.

will be addressed in O & M Plan

11. All precipitation and surface drainage from outside of the facility (i.e., "run on") shall be diverted away from any manured areas unless such drainage is fully contained (Title 27 Section 22562(b)).

12. Ponds and lagoons designated to contain the 25-year, 24-hour storm event runoff must have a depth marker that clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation from a 25-year, 24-hour storm event.

13. All roofs, buildings, and non-manured areas located in the production area at the facility shall be constructed or otherwise designed so that clean rainwater, including roof drainage, is diverted away from manured areas, including corrals and waste containment facilities, unless such drainage is fully contained in the wastewater retention system (Title 27 Section 22562(b)).

14. The milk parlor, animal confinement area (including corrals), and manure and feed storage areas shall be designed and maintained to convey all water that has contacted animal wastes or feed to the wastewater retention system and to minimize standing water and the infiltration of water into the underlying soils. The Discharger shall, at a minimum of once per year, backfill any slope loss with compacted, non-manured material to maintain pre-existing slopes.

15. Unlined ditches, swales, and/or earthen-berm channels may not be used for storage of wastewater, manure, or tailwater and may only be used for conveyance of wastewater collected in the production area to the settling ponds or storage lagoons, conveyance of wastewater from the storage lagoons to the land application area, irrigation return water management, or temporary control of accidental spills.

Land Application Specifications

16. Land application of all waste from the facility shall be initially conducted in accordance with the whole farm Nutrient Management Plan submitted as part of the 2005 Environmental Impact Report. No later than **2 February 2009**, the Discharger shall submit and follow a certified Nutrient Management Plan that meets the requirements in Attachment C. A Nutrient Management Plan that

- Remove* 18. The Discharger will continue to conduct inflow metering to estimate application rates from the storage ponds to the cropland.
19. The application of waste to land application areas shall be at rates that preclude development of vectors or other nuisance conditions and meet the conditions of the certified Nutrient Management Plan. Application shall be timed to minimize nitrogen movement below the root zone.
20. Land application areas that receive dry manure shall be managed through implementation of erosion control measures to minimize erosion and must be consistent with a certified Nutrient Management Plan.
21. All wastewater applied to land application areas must infiltrate completely within 72 hours after application.
22. Wastewater shall not be applied to land application areas during periods when the soil is at or above field moisture capacity unless consistent with a certified Nutrient Management Plan.
23. Manure and wastewater shall not be applied closer than 100 feet to any down gradient surface waters, open tile line intake structures, sinkholes, or other conduits to surface waters, unless a 35-foot wide vegetated buffer or physical barrier is substituted for the 100-foot setback or alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions achieved by the 100-foot setback.
24. Animal waste (manure solids) shall not be applied for disposal to any land that is not being used to grow crops. Crops must be planted within 60 days of waste application.
25. Waste and land application areas shall be managed to prevent contamination of crops grown for human consumption. The term "crops grown for human consumption" refers only to crops that will not undergo subsequent processing which adequately removes potential microbial danger to consumers.

C. Interim Groundwater Limitations

2. These interim groundwater limitations are to be applied at the shallowest groundwater beneath the facility. These limitations are based on the concentration of the constituent in the monitoring well located at the upgradient edge of the facility, MW-1. Release of waste constituents from any treatment, storage, or disposal component associated with the facility shall not cause or contribute to groundwater:

- c. **Nutrient Management Plan:** The Discharger has submitted a Whole Farm Nutrient Management Plan that addresses the application of wastewater to land for nutrient recycling (See Attachment C). By **2 February 2009**, the Discharger will provide a field-by-field Nutrient Management Plan to the Regional Board. The Plan must be maintained at the dairy, submitted to the Executive Officer upon request and must ultimately provide for protection of both surface water and groundwater. The Nutrient Management Plan shall be updated as necessary or if the Executive Officer requests that additional information be included. Groundwater monitoring will be used to determine if implementation of the Nutrient Management Plan is protective of groundwater quality.

- d. **BPTC Technical Evaluation:** By **2 February 2009**, the Discharger shall submit a written work plan for a BPTC technical evaluation that sets forth a schedule for a systematic and comprehensive technical evaluation of the three wastewater lagoons and three settling ponds to determine if the existing construction is protective of groundwater. The work plan shall contain a time schedule for completing the comprehensive technical evaluation. The schedule to complete the BPTC Technical Evaluation shall be as short as practicable, and shall not exceed two years. Upon written determination of adequacy of the technical report by the Executive Officer, the requirement shall be considered satisfied.

- e. **Salinity Report:** The Discharger shall submit a report that identifies sources of salt in waste generated at the dairy, evaluates measures that can be taken to minimize salt in the dairy waste, and includes a commitment to implement measures identified to minimize salt in the dairy waste. If a third party (for example, the California Dairy Quality Assurance Program) produces an industry-wide report that is acceptable to the Executive Officer, the Discharger may refer to that report rather than generating his own report, but must certify that the appropriate measures will be implemented to reduce salt in his dairy waste.

*Remove
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use gw
monitoring
wells
to monitor*

G. Reporting Provisions

1. All annual reports or information submitted to the Board shall be signed and certified in accordance with C.7 and C.8 of the Standard Provisions.
2. The Discharger shall submit all reports as specified in the attached Monitoring and Reporting Program No. R5-2008-XXXX.
3. The Discharger shall furnish, within a reasonable time, any information the Board may request, to determine whether cause exists for modifying, revoking, and reissuing, or terminating this Order. The Discharger shall, upon request, also furnish to the Board copies of records required to be kept by this Order.

2 below. This monitoring is for nutrient management, shall begin when the Order is adopted, and will be used to refine the Nutrient Management Plan. The Discharger is encouraged to collect and use additional data, as necessary, to refine nutrient management.

Table 2. NUTRIENT MONITORING
<p>Wastewater</p> <p><u>Each application:</u> Record the volume (gallons or acre-inches) and date of wastewater application to each land application area.</p> <p><u>Quarterly during one application event:</u> Field measurement of electrical conductivity.</p> <p>Laboratory analyses for nitrate-nitrogen (only when retention pond is aerated), ammonium-nitrogen, total Kjeldahl nitrogen, total phosphorus, potassium, and total dissolved solids.</p> <p><i>Remove</i></p> <p><u>Annually for the first two years of operation:</u> Laboratory analyses for general minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride).</p>
<p>Manure</p> <p><u>Each application to each land application area:</u> Record the total volume (cubic yards) applied and density (grams per liter) or total weight (tons) applied and percent moisture.</p> <p><u>Once within 12 months:</u> Laboratory analyses for general minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride).</p> <p><u>Twice per year:</u> Laboratory analyses for total nitrogen, total phosphorus, potassium, total dissolved solids and density (if volume manure applied is reported) or percent moisture (if weight manure applied is reported).</p> <p><i>Remove</i></p> <p><u>Each offsite export of manure:</u> Record the total volume (cubic yards) exported and density (grams per liter) or total weight (tons) exported and percent moisture.</p> <p>Laboratory analyses for density (if volume manure exported is reported) or percent moisture (if weight manure exported is reported).</p> <p><u>Annually:</u> Record the total dry weight (tons) of manure applied annually to each land application area and the total dry weight (tons) of manure exported offsite.</p>
<p>Plant Tissue</p> <p><u>At harvest:</u> Record the total weight (tons) and percent wet weight or volume (cubic yards) and density (grams per liter) of harvested material removed from each land application area.</p> <p>Laboratory analyses for total nitrogen, phosphorus, and potassium (expressed on a dry weight basis), and percent wet weight (if weight of harvested material is reported) or density (if volume of harvested material is reported).</p>

Groundwater Monitoring

The Discharger shall sample the 2 domestic and 29 agricultural supply wells and the six monitoring wells to characterize existing groundwater quality. Two of the six monitoring wells will be installed within six months of the date of this Order. This monitoring shall be conducted at the frequency and for the parameters specified in Table 4 below.

Table 4. GROUNDWATER MONITORING	
Domestic and Agricultural Supply Wells	
<u>Semiannually at time of expected highest and lowest water table levels:</u>	
Field measurements of electrical conductivity.	
Laboratory analyses of nitrate-nitrogen.	
<u>Annually:</u>	
Laboratory analyses for general minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride), ammonium-nitrogen, total dissolved solids, and fecal coliform.	
Monitoring Wells	
<u>Semiannually, including the times of expected highest and lowest water table levels:</u>	
Field measurements of electrical conductivity and pH.	
Laboratory analyses for nitrate-nitrogen, ammonium-nitrogen, total dissolved solids, fecal coliform, phosphorus, and potassium.	
<u>Annually:</u>	
Laboratory analyses for general minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride).	

1. Groundwater samples from domestic wells shall be collected from the tap nearest to the pressure tank (and before the pressure tank if possible) after water has been pumped from this tap for 10 to 20 minutes. Groundwater samples from agricultural supply wells shall be collected after the pump has run for a minimum of 30 minutes or after at least three well volumes have been purged from the well.
2. Prior to any pre-sample purging, the depth of groundwater shall be measured from a surveyed reference point to the nearest 0.01 foot in each well.
3. Monitoring of the domestic and agricultural supply wells may be reduced after one year of data are provided to the Executive Officer.
4. Constituents analyzed in the monitoring wells may be reduced after two rounds of samplings have been completed and the results provided to the Executive Officer.
5. Prior to installation of additional monitoring wells, the Discharger shall submit to the Executive Officer a Monitoring Well Installation and Sampling Plan

Remove
** already have all monitoring wells*

Remove

Remove

4. The amount of precipitation (in inches) the day of any discharge and for each of the seven days preceding the discharge;
5. The period of noncompliance, including dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
6. A time schedule and a plan to implement corrective actions necessary to prevent the recurrence of such noncompliance.

Annual Reporting

By January 15 of each year, the Discharger will submit an Annual Report containing the information on facility operations outlined in the Monitoring and Reporting program and covering the period from 1 November through 31 October of the previous year. The initial annual report will cover the period through 31 October 2008. The initial annual report will also include documentation from a trained professional that no cross connections exist between the waste management system and any water supply or irrigation well, as required under Prohibition A.13 of the Order. The initial annual report will include results of irrigation water monitoring and an assessment as to whether the amount of nitrogen in the irrigation water is sufficient to require inclusion of nitrogen from the irrigation water into the NMP. If the quantity of nitrogen in the irrigation water is negligible, the Discharger, as part of the annual report, may request a reduction in the testing of the irrigation water for nitrogen. *Propose to correspond with GW report*
SGI will do
OK

The annual report shall be completed on an annual report form provided by the Executive Officer (available on the Central Valley Water Board website at http://www.waterboards.ca.gov/centralvalley/available_documents/index.html#confined) and shall include all the information as specified below.

1. Identification of the beginning and end dates of the annual reporting period;
2. An Annual Dairy Facility Assessment using the tool provided by the Executive Officer or any future revisions thereto;
3. Number and type of animals, whether in open confinement or housed under roof;
4. Estimated amount of total manure (tons) and wastewater (gallons or acre-inches) generated by the facility during the annual reporting period and a calculation of the nitrogen, phosphorus, potassium, and total salt content of this waste;
5. Estimated amount of total manure (tons) and wastewater (gallons or acre-inches) applied to each land application area during the annual reporting

16. Results of the Record-Keeping Requirements for the production and land application areas specified in Record-Keeping Requirements B.2.b, B.2.c, B.3.a, B.3.b, B.3.c, B.3.d, B.3.e, B.3.j., B.3.k, and B.3.n above.

Groundwater Reporting

Should be on annual report

By 30 June 2008, and annually thereafter, the Discharger shall report the results of all groundwater monitoring. Groundwater monitoring reports shall include all laboratory analyses (including chain-of-custody forms and laboratory quality assurance/quality control results) and tabular and graphical summaries of the monitoring data. Data shall be tabulated to clearly show the sample dates, constituents analyzed, constituent concentrations, detection limits, depth to groundwater, and groundwater elevations. Graphical summaries of groundwater gradients and flow directions shall also be included. Each groundwater monitoring report shall include a summary data table of all historical and current groundwater elevations and analytical results. The submittal shall include a description of the statistical or non-statistical methods used in evaluating the groundwater monitoring data. The methods must be approved by the Executive Officer. The groundwater monitoring reports shall be certified by a California registered professional as specified in General Reporting Requirements C.9 of the Standard Provisions and Reporting Requirements of the Order.

Storm Water Reporting

By 30 June 2008, and annually thereafter, the Discharger shall submit an annual report that details the results of the previous year's storm water monitoring, including the Discharger's preparation for the upcoming wet season for all land application areas. The annual report shall include a map showing all sample locations for all land application areas, rationale for all sampling locations, the results (including the laboratory analyses, chain of custody forms, and laboratory quality assurance/quality control results) of all samples of storm water, an assessment of the storm water monitoring results, an explanation for any pollutants found in storm water from any land application area, and any modifications made to the facility or sampling plan in response to pollutants detected in storm water. The annual report must also include documentation if no significant discharge of storm water occurred from the land application area(s) or if it was not possible to collect any of the required samples or perform visual observations due to adverse climatic conditions.

Does not correspond with annual reporting date

If the storm water monitoring for any land application area indicates pollutants have not been detected in storm water samples, the Discharger may propose to the Executive Officer to reduce the constituents and/or sampling frequency for that area.

INFORMATION SHEET

Waste Discharge Requirements Order No. R5 – 2008 – XXXX
Michael Vander Dussen DBA Double Diamond Dairy
Merced County

INTRODUCTION

Michael Vander Dussen has expanded the herd at his dairy in Merced County, south of the city of El Nido. The maximum herd size (Holsteins) at the dairy after the herd size expansion is 9,870: 4,800 milking cows, 720 dry cows, 1,340 bred heifers, 700 heifers aged one year to breeding, 1,540 three-to-twelve month calves and 770 baby calves. The dairy includes a milking parlor, freestall barns, corrals, manure storage and drying areas, a transfer pit, two mechanical separators on concrete slabs, three settling ponds, three wastewater storage lagoons, and feed storage areas. Wastewater is land-applied to 1,990 of the 2,129 acres for agricultural production. Solid manure is applied to cropland or used onsite as bedding.

An Environmental Impact Report (EIR) was prepared for the project by Merced County Department of Planning and Community Development and was certified in December 2005. Milking of the expanded herd size began in September 2007.

As part of its development of a General Order for existing milk cow dairies, the Central Valley Regional Board required all existing dairies to file a Report of Waste Discharge (ROWD) by 17 October 2005 to document conditions at each dairy as of that date, including the number of mature dairy cows. The ROWD also requested the maximum number of mature dairy cows at each dairy within the preceding 12 months period. The maximum number of mature dairy cows that can be at an existing dairy is limited to 115% of the larger of these two numbers for the dairy to qualify for coverage under the General Order. Dairies in existence as of October 2005 that want to increase beyond this number must get Individual Waste Discharge Requirements.

These Waste Discharge Requirements will allow ~~the~~ Double Diamond Dairy to increase its herd size to the number allowed under the EIR approved by Merced County. The facilities constructed at the dairy are all sized to house the number of animals allowed under the EIR. Reports of Waste Discharge dated 22 September 2005 and 7 February 2008 have been submitted for the expanded dairy. Additional information has been submitted to the Regional Board including portions of the Nutrient Management Plan and portions of the Waste Management Plan.